

MendALIEN Genetics

Wrapping It Up!

Name

1) How does your Alien compare to the ones created by your classmates? Pick two aliens that are near yours and compare each of the 12 traits to one another. Indicate the phenotype for each trait in the cart.

Trait	My Alien	Alien by _	Alien by
Face Shape			
Eye Shape			
Nose Style			
Face/Body Color			
Eye Color			
Body Type			
1. of Fingers			
1. of Toes			
Height			
Antennas			
Mouth Style			

2) Which Alien has the most dominant traits? How many?

3) Which Alien has the most recessive traits? How many?

4) Which traits were a result of *Incomplete Dominance*?

5) What is the probability an Alien will be green? out of or %

6) How many Aliens are green, which is a recessive trait? out of or %

7) How does your predicted probability for green coloration (#5) compare to the actual results (#6)? Explain.

- 8) What is the probability that an Alien will be short? out of or %
- 9) How many Aliens are short, which is the dominant trait? out of or %
- 10) How does your predicted probability for a short Alien (#8) compare to the actual results (#9)? Explain.
- 11) Why did you only need to flip the male parent coin to determine the sex of your Alien?
- 12) How would the Alien change if one of the parents were homozygous dominant for all the traits while the other was heterozygous?
- 13) How would the Alien change if one of the parents were recessive for all the traits while the other was heterozygous?
- 14) An Alien who is heterozygous for antennas decides to marry another alien who has no antennas. They have always wanted a large family! If they were to have 12 children, what is the probability that the children will have 2 antennas?
- 15) Two aliens are both heterozygous for star eye shape. If one of their heterozygous children married another alien with diamond shaped eyes, what percentage of their grandchildren should have starry eyes? What percent would have diamond eyes? Make a punnett square to help find the answer!
- 16) A father Alien is skeptical that the child his wife just gave birth to is his! He says the alien baby can't be his because him and his wife both have 5 fingers and toes, while the child has 10 fingers and toes!!! Should this alien dad be worried that the child isn't his? Explain.
- 17) A female Alien has beautiful blue eyes and wants her child to have the same beautiful blue eyes that she does. What type of eyes would her husband have to have in order for her to get her wish? Give the genotype and phenotype of both parents as part of your answer.